"Fauna and Flora of the Gulf of Naples," either already published (Dr. Giesbrecht's monograph is the nineteenth volume published) or in preparation may convince also those who may still be doubtful in this regard.

Later, and in another article, I may be permitted to discuss some questions regarding another great publication of the Zoological Station, the *Zoologischer Jahresbericht*, a discussion which will touch some of the most vital questions of scientific organisation.

ANTON DOHRN.

## *BRITISH ASSOCIATION, NOTTINGHAM MEETING.*

FURTHER information has been forwarded since the last issue of NATURE from Presidents and Recorders of Sections, of which the following statement is a summary:—

In Section B the following papers are promised, in addition to those already mentioned:—"The Action of Permanganate on Sulphites and Thiosulphates," by G. E. Brown and W. W. J. Nicol; "The Relation existing between Chromium and Certain Organic Acids, and some New Chromoxalates," and on "The Action of Phosphorus Pentachloride on Urethanes," by Emil A. Werner; "The Occurrence of Cyanonitride of Titanium in Ferromanganese," by T. W. Hogg; "Hydrogen Flame-cap Measurements, and the Adaptation of the Hydrogen-flame to the Miners' Safety-lamp," by Prof. Frank Clowes. A general statement of the arrangement of work in this Section appeared in last week's NATURE. The only probable alteration is the shifting of M. Moissan's demonstration to Friday, September 15, and of the Bacteriological discussion to Monday, 18.

An interesting paper is promised to Section E by Mr. Cope Whitehouse, a distinguished American citizen of New York and Cairo.

The presidential address in Section F, on "The Reaction in favour of the Classical Political Economy" will be mainly inspired by the idea that the principles and methods of the classical and orthodox economists have only been modified and supplemented, not displaced, by recent writers; and that both theoretically and practically there are signs of a reaction in favour of the older doctrines as against socialism.

The probable arrangement of work in Section H is as follows:—On Thursday, September 14, the President's address will be delivered, and a few papers on physical anthropology will be read. On Friday, 15, Dr. Hans Hildebrand, Royal Antiquary of Sweden, will read his paper on "Anglo-Saxon Remains, and the Coeval Ones in Scandinavia," and this will be followed by archæological papers. On Monday, 18, various papers will be taken. On Tuesday, 19, Dr. Munro will describe "The Structure of Lake Dwellings," and Mr. Arthur Bulleid will give an account of "The Recently Discovered Lake or Marsh Village near Glastonbury."

Papers which have not been already mentioned in Section H are—"Anthropometric Work in Schools," by Prof. Windle; "The Prehistoric Evolution of the Theories of Punishment, Revenge and Atonement," by Rev. G. Hartwell Jones; "Pin-wells and Rag-bushes," by Mr. Hartland; and "The Tribes of the Congo," by Mr. Herbert Ward.

The Local Secretaries wish to announce that the local programme and the list of hotels and lodgings are ready for issue, and may be obtained by application at the British Association Office, Guildhall, Nottingham, until September 9; after that, application should be made at the Reception Room, Mechanics' Institution. It may also be stated that the local committee has engaged the Theatre Royal for Wednesday night, September 20, when Mr. Wilson Barrett's Company will give the new play "Pharaoh." It is hoped that members will avail themselves of the invitation extended to them for this entertainment, and that it will induce them to remain in Nottingham, and take advantage of the excursions arranged for the following day. Other items worthy of mention are a special concert, which will be given by the Nottingham Sacred Harmonic Society on the Saturday night; and a garden-party, given by Mr. J. W. Leavers, in whose grounds some of the old rock-dwellings of Nottingham are to be seen. Geologists and naturalists will be interested to know that amongst the special local literature will be a little book entitled "Contributions to the Geology and Natural History of Nottinghamshire," which has been edited by Mr. J. W. Carr, M.A., with the assistance of local specialists. FRANK CLOWES.

## *SCIENCE IN THE MAGAZINES.*

SCIENCE makes a poor show in the September magazines. There are, however, one or two important articles which claim attention. In the *Contemporary Review* Prof. A. Weismann writes on "The All-Sufficiency of Natural Selection," his essay being an answer to two articles by Mr. Herbert Spencer directed against Prof. Weismann's views on heredity and natural selection. The essay is not merely controversial, but also a clear explanation of Weismannism. The following is the concluding paragraph:—

> I hold it to be demonstrated that all hereditary adaptation rests on natural selection, and that natural selection is the one great principle that enables organisms to conform, to a certain high degree, to their varying conditions, by constructing new adaptations out of old ones. It is not merely an accessory principle, which only comes into operation when the assumed transmission of functional variations fails; but it is the chief principle in the variation of organisms, and compared to it, the primary variation which is due to the direct action of external influences on the germ-plasm, is of very secondary importance. For, as I previously said, the organism is composed of adaptations, some of which are of recent date, some are older, some very old; but the influence of primary variations on the physiognomy of species has been slight and of subordinate importance. Therefore I hold the discovery of natural selection to be one of the most fundamental ever made in the field of biology, and one that is alone sufficient to immortalise the names of Charles Darwin and Alfred Wallace. When my opponents set me down as an ultra-Darwinist, who takes a one-sided and exaggerated view of the principle discovered by the great naturalist, perhaps that may make an impression on some of the timid souls who always act on the supposition that the *juste-milieu* is proper; but it seems to me that it is never possible to say *a priori* how far-reaching a principle of explanation is: it must be tried first; and to have made such a trial has been my offence or my merit. Only very gradually have I learned the full scope of the principle of selection; and certainly I have been led beyond Darwin's conclusions. Progress in science usually involves a struggle against deep-rooted prejudices: such was the belief in the transmission of acquired characters; and it is only now that it has fortunately been overcome that the full significance of natural selection can be discerned. Now, for the first time, consummation of the principle is possible; and so my work has not been to exaggerate, but to complete.

Two articles of scientific interest appear in the *Fortnightly Review*. One, by Mr. W. Bevan Lewis, on "The Origin of Crime," deals with drunkenness, insanity, epilepsy, and similar affections in their mutual relationship to crime; in the second, entitled "The Climbing of High Mountains," Mr. W. M. Conway enthusiastically supports mountaineering in unexplored regions. Ordinary official surveys do not supply the detailed information with regard to buttress and fold in which resides the clue of mountain structure. It is for mountaineers to make up the deficiency.



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In Mr. Conway's words :—

The Arctic and Antarctic regions remain for the future, and so do almost all the great mountain ranges in the world. The Alps alone are explored. The exploration of the Caucasus has been well begun, perhaps half done. Mr. Whymper has accomplished as much as one man can do in a season in the great Andes of Ecuador, but the Andes as a whole are little known. A good deal has been done in parts of the Rocky Mountains. Our New Zealand fellow-countrymen have boldly attacked the beautiful mountain fastnesses which belong to them. All these are hopeful beginnings, but the mountains of Central Africa and all the ranges of Asia are practically unknown. Thus the future of exploration is in the hands of climbers. The exploration of the Alps is a mere specimen on a small scale of the greater work which remains to be accomplished over areas incomparably vaster, and amongst ranges loftier and far more difficult than the Alps. . . . . Whilst the Himalayas have been in large part surveyed by the Indian Government, they are not, from a mountaineer's point of view, surveyed at all. No attempt has been made to give a true physical representation of the highest levels. The glaciation has been treated in the vaguest fashion and upon the ditch theory. From such work a mountain student cannot learn much. It was for this reason that I was tempted to make, in the year 1892, an expedition into the Karakoram Mountains, where are gathered together the mightiest group of glaciers in the world outside the Polar regions. The Hispar, the Biafo, and the Baltoro glaciers had for me the attraction of size as well as remoteness. The Hispar glacier was unsurveyed. The lower portions of the other two had been mapped by Colonel Godwin-Austen years ago, but their upper regions were unknown. The journey that I planned was duly carried out and resulted in the physical survey of some three thousand square miles of high mountain country. A map of the Central Asiatic mountain region lies before me as I write. It measures twelve by fifteen inches, On the same scale, the portion surveyed by me measures less than a square inch. This will give some idea of the amount of work that remains to be done in Asia by mountaineers.

The great difficulty in climbing at considerable altitudes lies in the diminished atmospheric pressure. Says Mr. Conway :—

It is more felt in hollow places than on ridges, more on snow than rocks, more in still air than a breeze, more in sunshine than under clouds or by night. It seems probable that the healthy human body can be accustomed to altitudes up to 18,000 or 19,000 feet. Above 19,000 feet a cumulative effect of discomfort is produced.

Mr. Conway and his party reached an altitude of 22,500 feet in the journey to the Karakorams referred to above, and he thinks an altitude of 24,000 feet may eventually be attained, but it will probably not be much exceeded.

Miss A. R. Taylor describes her sojourn in Thibet in the *National Review*.

*Scribner's Magazine* contains an interesting article on "The Tides of the Bay of Fundy," by Mr. Gustav Kobbé. Who has not heard of these tides, and wondered at their reputed magnitude? Statistics regarding the range are often so loosely stated that the following quotation is justifiable :—

At Grand Manan the fall is from twelve to fifteen feet, at Lubec and Eastport twenty feet, at St. John from twenty-four to thirty feet, at Moncton, on the bend of the Petitcodiac, seventy feet, while the distance between high and low water mark on the Cobequid River is twelve miles—the river actually being twelve miles longer at high than at low water.

Under the title, "The First Artists of Europe," the Rev. S. Baring Gould gives, in *Good Words*, a well-illustrated description of the flint implements and tools, carvings on bone, horn, and ivory, sculptures, engravings, and sketches left by prehistoric reindeer hunters in caves, and beneath overhanging rocks in the valley of the Vézère, France. "The Story of the South African Diamond Fields" is told by the Rev. John Reid in the same magazine, and Mr. E. W. Abram contributes a biography of the Rev. F. O. Morris, whose volumes on "Birds" and "Butterflies and Moths" are known to all naturalists, and earned for him the name of "Gilbert White of the North."

"Bacterial Life and Light" is the title of an article by Mrs. Percy Frankland, in *Longman's Magazine*, in which the recent work that has been done on the bactericidal action of sunlight is brightly described.

## NOTES.

MR. SCOTT ELLIOT has obtained a grant from the Government Grant Committee of the Royal Society for the purpose of exploring Uganda. We understand that his intention is to start from Mombassa and proceed direct to Lake Victoria Nyanza. After a short stay near the lake Mr. Scott Elliot hopes to leave for Ruwenzari, and to spend as long a time as his funds permit in exploring the botany, geology, and natural history of this mountain chain. Both Dr. Stuhlman and Dr. Baumann have been very lately in this neighbourhood, but still something of interest may be expected from Mr. Elliot's exploration.

THE works of the Cataract Construction Company at Niagara Falls are rapidly approaching completion. The tunnel is really finished, and so is the canal. The wheel-pits have had to be cut out of the solid rock. A power house is now being constructed to carry a travelling crane worked by an electric motor, the current for which will be supplied by a Westinghouse Engine and dynamo. The first of the three turbines of 5,000 horse-power has been made by the Morris Company, of Philadelphia, from designs by Faesch and Picard, of Geneva, and will be set up as soon as the electric crane is in its place. Prof. George Forbes, F.R.S., the electrical consulting engineer to the Cataract Company, has completed the plans for the electrical transmission, which will be by an alternating current. Vertical-shaft dynamos, each of 5,000 horse power, and capable of giving current in one or two phases, will be employed. It is hoped that the first of these dynamos will be built in about four months. The power will first be used at the new works of the Pittsburg Reduction Company, on the road towards Buffalo, for the production of aluminium. To hold the conductors, a roomy subway of concrete is being constructed. Cast-iron frames are built into the concrete, and brackets are fixed to them carrying insulators upon which the conductors will be supported. It will be seen from this that all the work is now well advanced, and a difficult enterprise is being brought to a successful termination.

THE exceptionally heavy cyclone which swept along the American coast on August 28 and 29, and was noted in our last issue, occasioned great loss of life and property both at sea and on land. The principal violence of the storm appears to have occurred in Georgia and South Carolina, and the fury of the wind completely swept down houses which were in the track of the hurricane. The storm was also accompanied by a tidal wave, which added immensely to the destruction on the sea-coast and on the islands in the main track of the disturbance. The wind is reported to have attained a velocity of 120 miles an hour, but much yet has to be learned from the numerous meteorological stations situated in or near to the storm's path. The cyclone was evidently an ordinary West Indian hurricane, which storms are not of uncommon occurrence at this season of the year; but it is unusual for these disturbances to maintain their full energy when they continue their course to the northward, and extend to regions well outside the tropics. This hurricane is said to have been experienced in the Bahamas three or four days before it broke with such fury on the shore of the mainland, and it is reported to have finally retreated out to sea as an ordinary gale. Just ten years ago a very severe storm traversed the south of England, and by means of ship's obser-



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